



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/582,123

06/07/2006

Hiromasa Nomura

52433/850

1778

26646

7590

09/29/2008

KENYON & KENYON LLP  
ONE BROADWAY  
NEW YORK, NY 10004

EXAMINER

DYE, RENA

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

09/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,123	<b>Applicant(s)</b> NOMURA ET AL.	
	<b>Examiner</b> Michael La Villa	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2008 (RCE).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 August 2008 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
3. A person shall be entitled to a patent unless –
4. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoji et al. WO 2003/0048416. Shoji et al. teaches ZnAl alloy coating on a steel substrate having thereon a metal oxide or metal hydroxide coating layer further coated with an organic layer, wherein the metal oxide or metal hydroxide coating layer is formed by room temperature dipping or electrolytic treatment of the coated substrate in a solution of 0.1M hexafluorozirconate, hexafluorotitanate, or hexafluorosilicate. See Shoji et al. USPA 2005/0067056 (Abstract; paragraphs 134 through paragraphs 157) (translation of WO 2003/0048416). Comparison to applicant's examples in the Specification demonstrates that ZnAl alloy coated

Art Unit: 1794

substrates, when treated by the treatment solutions of Shoji et al., would be expected to form hydroxide coatings of Zr, Ti, and Si having cracks therein and having a coated substrate surface having pits therein. See Specification (page 8, lines 10-22; page 11, lines 5-34; Table 4; and page 19, lines 1-10).

***Claim Rejections - 35 USC § 102/103***

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shoji et al. WO 2003/0048416. Shoji et al. teaches ZnAl alloy coating on a steel substrate having thereon a metal oxide or metal hydroxide coating layer further coated with an organic layer, wherein the metal oxide or metal hydroxide coating layer is formed by room temperature dipping or electrolytic treatment of the coated substrate in a solution of 0.1M hexafluorozirconate, hexafluorotitanate, or hexafluorosilicate. See Shoji et al. USPA 2005/0067056 (Abstract; paragraphs 134 through paragraphs 157) (translation of WO 2003/0048416). Comparison to applicant's examples in the Specification demonstrates that ZnAl alloy coated substrates, when treated by the treatment solutions of Shoji et al, would be

Art Unit: 1794

expected to form hydroxide coatings of Zr, Ti, and Si having cracks therein and having a coated substrate surface having pits therein. See Specification (page 8, lines 10-22; page 11, lines 5-34; Table 4; and page 19, lines 1-10). There is nearly identical similarity of the examples of Shoji et al. and applicant's embodiments, with respect to treatment composition in terms of chemical composition and concentration, treatment conditions in terms of dipping time and temperature and electrolysis conditions, and substrate composition in terms of steel substrate coated by ZnAl alloy. Applicant's embodiments are characterized as being inventive and hence falling within the claimed ranges of crack and pit parameters. Hence, it would be expected that the resulting metal hydroxide film and substrate surface in Shoji et al. would respectively obtain crack structure and pit dimension parameters identical to or substantially identical to those claimed.

***Claim Rejections - 35 USC § 103***

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoji et al. WO 2003/0048416 in view of Honda et al. USPN 6,465,114. Shoji et al. teaches ZnAl alloy coating on a steel substrate having thereon a metal oxide or metal hydroxide coating layer further coated with an organic layer, wherein the metal oxide or metal hydroxide coating layer is formed by room temperature dipping or electrolytic treatment of the coated substrate in a solution of 0.1M hexafluorozirconate, hexafluorotitanate, or hexafluorosilicate. See Shoji et al. USPA 2005/0067056 (Abstract; paragraphs 134 through paragraphs 157) (translation of WO 2003/0048416). Comparison to applicant's examples in the

Art Unit: 1794

Specification demonstrates that ZnAl alloy coated substrates, when treated by the treatment solutions of Shoji et al, would be expected to form hydroxide coatings of Zr, Ti, and Si having cracks therein and having a coated substrate surface having pits therein. See Specification (page 8, lines 10-22; page 11, lines 5-34; Table 4; and page 19, lines 1-10). One difference between the examples of Shoji et al. and those of applicant's embodiments relates to the specific ZnAlMgSi alloy composition of applicant's embodiments which Shoji et al. does not expressly disclose. However, Shoji et al. teaches that zinc/aluminum alloys as coating materials are generally effective. Honda et al. teaches that applicant's exemplified  $\text{Zn}_{11}\text{Al}_3\text{Mg}_{0.2}\text{Si}$  coating alloy is encompassed by effective coating compositions for protecting steel substrates. See Honda et al. (Abstract; Table 26; Claim 1; and entire disclosure). In the event that the film and substrate surface of Shoji et al. does not obtain claimed crack and pit structural parameters values or those substantially similar to claimed values, it would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the ZnAl alloy of Shoji et al. with any effectively protective ZnAl alloy, including those, such as applicant's exemplified composition, suggested by Honda et al. as effectively providing protection to steel substrates. The resulting laminate, upon treatment with the treatment solution of Shoji under the conditions of Shoji, would be expected to be exactly identical to or substantially identical to those of applicant's embodiments. Applicant's embodiments are characterized as being inventive and hence falling within the claimed ranges of crack and pit

parameters. Hence, it would be expected that the resulting metal hydroxide film and substrate surface in Shoji et al. would respectively obtain crack structure and pit dimension parameters identical to or substantially identical to those claimed.

***Response to Amendment***

9. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Yano and the section 103 rejection over Yano of the Office Action mailed on 22 February 2008. Rejections are withdrawn.
10. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Sato, the section 102/103 rejection over Sato, and the section 103 rejection over Sato of the Office Action mailed on 22 February 2008. Rejections are withdrawn.
11. In view of applicant's amendments and arguments, applicant traverses the section 103 rejection over Makishima of the Office Action mailed on 22 February 2008. Rejection is withdrawn.
12. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph written description rejection of the Office Action mailed on 22 February 2008. Rejection is withdrawn.
13. In view of applicant's amendments and arguments, applicant traverses the section 112, first paragraph enablement rejection of the Office Action mailed on 22 February 2008. Rejection is withdrawn.

Art Unit: 1794

14. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 22 February 2008. Rejection is withdrawn.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1794

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael La Villa/  
Michael La Villa  
Primary Examiner, Art Unit 1794  
19 September 2008